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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,035

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Helmut Jerg

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BSH HOME APPLIANCES CORPORATION  
INTELLECTUAL PROPERTY DEPARTMENT  
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EXAMINER

KO, STEPHEN K

ART UNIT

PAPER NUMBER

1792

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/575,035	JERG, HELMUT	
	<b>Examiner</b>	<b>Art Unit</b>	
	STEPHEN KO	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07 April 2006</u> .                                           | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electrical heating means to regulate the thermal conductivity of a variable heat damping layer (See claim 27, 35), the heat generating means for generating heat in a washing container (See claim 32), and program control (See claim 34) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 28 and 35 are objected to because of the following informalities:
- a) Claim 28 recites limitation "in heat-conducting contact with awall" is apparently should be written as "in heat-conducting contract with a wall" (Claim 28, L.2). b) Claim 35 recites limitation "preferably by electric heating means" is apparently should be written as "preferably by an electric heating means" (claim 35, L.2). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 27 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 27 recites the limitation "the power of the current applied to the electrical heating means" in claim 27, L.2. There is insufficient antecedent basis for this limitation in the claim. It is assumed to be "a power of a current applied to an electrical heating means" for examination purpose.
6. Claim 34 recites the limitation "program control" in claim 34, L.2. There is insufficient antecedent basis for this limitation in the claim. It is assumed to be "a program control" for examination purpose.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 19, and 28-29 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 196 22 882.

9. For claim 19, DE'822 teaches a dishwasher comprising a washing container (Fig.1, #1); a heat damping layer (Fig.1, #3, #4, and #5), comprising a intermediate layer (Fig.1, #3) and a latent heat storage (Fig.1, #5), at the dishwasher's outer surface (abstract), wherein the intermediate layer of the heat damping layer only allows heat crossing from the washing container to the latent heat storage during the drying procedure (read as heat damping layer having variable thermal conductivity in that the heat damping layer can be adjusted between at least a first thermal conductivity value at which thermal conductivity through the heat damping proceeds at a first rate and a second thermal conductivity value at which thermal conductivity through the heat damping proceeds at a second rate different than the first rate, P.2, L.4-16, See translation).

10. For claim 28, note that the heat damping layer (DE'882, Fig.1, #3, #4, and #5) is in heat-conducting contact with a wall of the washing container and with an outer wall of the dishwasher (DE'882, P.2, L.4, See translation and abstract).

11. For claim 29, note that the variable heat damping layer is disposed in a side wall of the dishwasher (DE'882, Fig.1, abstract).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 20-25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882 in view of DE 196 47 567.

15. For claims 20-21, DE'882 teaches a dishwasher as cited above.

16. DE'822 does not teach a heat damping layer includes a closed capsule containing hydrogen in which at least one metal hydride grid is arranged, which can form a chemical compound with the hydrogen and thus bind the hydrogen.

17. DE'567 teaches a variable heat conductivity insulation panel (read as heat damping layer, title) comprising an evacuated cladded structure (read as gastight jack, abstract) having a structured insulating material formed by glass fiber (read

as capsule, abstract) enclosing hydrogen metal hydride (abstract and P.2, L.25, See translation).

18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dishwasher of DE'882 to utilize a heat damping layer as mentioned in DE'567 instead of the heat damping layer of DE'882 to have a vacuum insulation and enhance insulation efficiency.

19. For claim 22, note that the heat damping layer is heated with an electrical heating (DE'567, P.2, L.30-31, See translation) and operable to function at temperature of at least 300 degree Celsius (P.2, L.24-32, See translation).

20. For claims 23 and 24, note that the variable heat conductivity insulation panel is configured identically to the instant claims (DE'567, P.2, L.18-27, See translation).

21. For claim 25, both DE'822 and DE'567 do not teach an internal pressure of the heat damping layer being about 0.01mbar at room temperature and about 50mbar at a temperature of about 300 degree Celsius. Note that DE'567 teaches an internal pressure of the variable heat conductivity insulation panel being smaller than 0.01 mbar (read as about 0.01mbar, P.2, L.19, See translation).

22. Regarding claim 25, reciting an internal pressure of the capsule of the heat damping layer at a particular temperature, it is noted that the internal pressure at the particular temperature depends on the type of metal hydride that is used, one skilled in the art would have been found obvious at the time the invention was made to choose a most suitable metal hydride to optimize the

performance of the thermal insulation and conduction of the heat damping layer, as it only involves routine experiments.

23. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882 in view of Bovenkerk (US 3,167,159).

24. DE'882 teaches a dishwasher cited above.

25. DE'882 remains silent about a controlling means to control the thermal conductivity of the variable heat damping layer, such that the variable heat damping layer is continuously adjustable to an arbitrary thermal conductivity value between the first and second thermal conductivity value. Note that DE'882 teaches a heater (Fig.1, #13, P.3, L.23, See translation) to adjust the thermal conductivity of the variable heat damping layer to a value between the first and second thermal conductivity value.

26. Bovenkerk teaches an insulating structures with variable thermal conductivity comprising an electrical heater (Fig.1, #19, col.4, L.45) coupled to a control , which is a rheostat (read as controlling means which is fully capable of continuously adjustable to an arbitrary thermal conductivity value between the first and second thermal conductivity value, Fig.1, #20, col.4, L.47).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dishwasher of DE'882 by adding a controlling means to the heater as mentioned in Bovenkerk to control the thermal conductivity of the variable heat damping layer.



28. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882 in view of DE 196 47 567 in further view of Bovenkerk (US 3,167,159).

29. Both DE'882 and DE'567 teach a dishwasher cited above.

30. Both DE'882 and DE'567 remain silent about a controlling means to control the thermal conductivity of the variable heat damping layer, such that the variable heat damping layer is continuously adjustable to an arbitrary thermal conductivity value between the first and second thermal conductivity value and the variable heat damping layer having thermal conductivity value approximately in a range between  $0.3\text{W/m}^2\text{K}$  and  $10\text{W/m}^2\text{K}$ . Note that DE'567 teaches an electrical heating (DE'567, P.2, L.30-31, See translation) to adjust the thermal conductivity of the variable heat conductivity insulation panel (read as the variable heat damping).

31. Bovenkerk teaches an insulating structures with variable thermal conductivity comprising an electrical heater (Fig.1, #19, col.4, L.45) coupled to a control, which is a rheostat (read as controlling means which is fully capable of continuously adjustable to an arbitrary thermal conductivity value between the first and second thermal conductivity value, Fig.1, #20, col.4, L.47).

32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dishwasher of combined teaching of DE'882 and DE'567 by adding a controlling means to the heater as mentioned in Bovenkerk to control the thermal conductivity of the variable heat damping layer. Regarding claim 27, reciting thermal conductivity value approximately in a range

between  $0.3\text{W/m}^2\text{K}$  and  $10\text{W/m}^2\text{K}$ , it is noted that these parameters are result effective, because they affect the effectiveness of conserving and removing thermal energy built up in the dishwasher, and one skilled in the art would modify different variables to achieve optimum result, consult, *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

33. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882.

34. DE'882 teaches a dishwasher as cited above.

35. DE'882 does not teach the variable heat damping layer is disposed in a selected one of the top and the bottom of the dishwasher.

36. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the attachment position of the variable heat damping layer of DE'882 as it is a matter of design choice, consult, *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

37. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882 in view of Lampman et al (US 4,746,177).

38. DE'882 teaches a dishwasher as cited above. Note that DE'882 teaches a dishwasher comprising a cooler surface (read as a wall of the washing container having at least a condensing surface, P.1, paragraph 2, See translation).

39. DE'882 does not teach a condensing surface made of flexible material comprising plastic film.

40. Lampman et al teach a dishwasher having a flexible plastic tub (col.5, L.57).

41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dishwasher of DE'882 by using a flexible plastic tub as mentioned in Lampman et al to facilitate assembly.

42. Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882 in view of JP 2002-336180.

43. DE'882 teaches a method for cleaning and drying tableware in a dishwasher comprising a washing container (Fig.1, #1); a heat damping layer (Fig.1, #3, #4, and #5), comprising an intermediate layer (Fig.1, #3) and a latent heat storage (Fig.1, #5), disposed at least partially surrounding the dishwashing container (Fig.1), wherein dishes in the dishwasher are heated during cleaning and/or rinsing process (P.1, paragraph 2, See translation) and the intermediate layer of the heat damping layer only allows heat crossing from the washing container to the latent heat storage during the drying procedure (read as disposing the heat damping layer at the relatively lower thermal conductivity value when thermal energy is built up during cleaning and/or rinsing process in the washing container, and disposing the heat damping layer at the relatively higher thermal conductivity value during drying process, P.2, L.4-16, See translation).

44. DE'882 remains silent about the step of providing a heat generating means for generating heat in the washing container.

45. Examiner takes official notice that the use of electric heater to generate heat in the washing container is well known in the art.

46. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of DE'882 by adding an electric heater to generate heat in the washing container to perform heating the dishes during cleaning and/or rinsing process as mentioned in DE'882.

47. DE'882 remains silent about the step of providing a dishwasher being operable to execute at least one washing program.

48. JP 2002-336180 teaches a dishwasher comprising the steps of providing a control means (read as program control, Fig.1, #101, abstract) to execute program (read as washing program, abstract).

49. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of DE'882 by using a program control to execute at least one washing program, including the operation of the variable heat damping layer, as inspired by JP 2002-336180 to simplify dishwashing procedure.

50. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882 in view of JP 2002-336180 in further view of DE 196 47 567.

51. Both DE'882 and JP 2002-336180 remain silent about a step of providing an electric heating means to heat the variable heat damping layer. Note that DE'882 teaches a step of heating the variable heat damping layer by a heater (Fig.1, #13, P.3, L.23, See translation).

52. DE'567 teaches a step of using electrical resistance heating (read as electric heating means, P.2, L.31, See translation) to heat a variable heat conductivity insulation panel (read as heat damping layer, title).

53. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of combined teaching of DE'882 and JP 2002-336180 by using an electric heating means as mentioned in DE'567 to heat the variable heat damping layer quietly and perform quick heating.

54. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 22 882 in view of JP 2002-336180 in further view of Milocco (US 5,273,061).

55. DE'882 and JP 2002-336180 teach a method for cleaning and drying tableware cited above.

56. Both DE'882 and JP 2002-336180 remain silent about water deposited during the drying process in the washing container is passed from the washing container via at least one of discharge via a sump of the dishwasher, discharge via a discharge pump, and discharge via a means other than a sump or a discharge pump of the dishwasher. Note that DE'882 teaches a step of condensing humid air contained in the rinsing space atmosphere at a cooler surface of the washing container (P.1, paragraph 2, See translation).

57. Milocco teaches a method for drying process in a dishwasher comprising the steps of condensing vapor inside the washtub, and the condensate is collected on the bottom of the tub and evacuated by a discharge pump (col.2, L.38-45).

58. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of combined teaching of DE'882 and JP 2002-336180 by passing the water deposited during the drying process in the

washing container from the washing container via a sump and discharging via a discharge pump to reduce the humidity inside the washing container to enhance drying and prevent flooding inside the washing container.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN KO whose telephone number is (571)270-3726. The examiner can normally be reached on Monday to Thursday, 7:30am to 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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